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Eye surgery/vitreotomy—past, present and future

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Eye surgery, in general, and macular surgery (vitrectomy), in particular, have undergone a remarkable technological evolution. Operations that were barely contemplated 10 years ago are now conducted as a matter of course, and it is hardly conceivable what the next decade will bring forth in the way of technical advancements. The international symposium: “Eye surgery/vitreotomy—past, present and future” was held in late February 2004 in Bern, Switzerland, with a view to laying bare this dramatic evolution from past to the present time—through the working years of the retiring head of the Department of Ophthalmology, University of Bern, Prof. F. Koerner—and to speculating on potentially fruitful directions of pursuit in the near future.

The main topics discussed in the symposium were: vitrectomy in children, vitrectomy in cases of inflammatory eye disease, posterior vitreous detachment and its consequences, vitreolysis and the development of PVR, the treatment of occlusive vascular and proliferative diseases, and strategies for maintenance and replacement of retinal function. But other issues that have a high impact on routine ophthalmologic practice were also addressed. From the broad range of subjects dealt with, five representative papers have been selected for presentation here, each of which reflects a problem that has figured largely in the evolution of vitreoretinal microsurgical techniques:

1. “Anomalous posterior vitreous detachment: a unifying concept in vitreoretinal diseases” by Prof. Dr J. Sebag (Los Angeles). This review summarizes our current understanding of the development of vitreoretinal problems that culminate in retinal detachment.
2. “Strategies to Influence PVR development” by Prof. Dr B. Kirchhof (Cologne). This article describes interventions that may have an important bearing on the successful treatment of PVR.
3. “Surgical treatment of diabetic retinopathy” by PD Dr H. Helbig (Zuerich). This discourse puts recent advances in the surgical treatment of diabetic retinopathy into perspective and assesses the current benefits and limitations of technical developments in vitrectomy cutters and machines which permit the removal of even a well-structured vitreous without inevitable damage to the retina.
4. “Pathophysiological pathways in age-related macular disease” by Dr F. Roth, Dr A. Bindewald and Prof. F.G. Holz (Bonn). This paper provides an update of our current understanding of the problems underlying age-related macular disease and furnishes guidance on the clinical management of this condition.
5. “Retinal replacement” by Dr H.G. Sachs and Prof. V.P. Gabel (Regensburg). This presentation reflects on the visual quality currently achievable using retinal-replacement prostheses and follows the development of the surgical technique employed for their implantation.

The dramatic evolution in vitreoretinal microsurgical techniques, as well in the adjunctive medical therapeutic strategies that contribute to surgical success, would not have been conceivable without improvements in our understanding of the pathophysiology of the diseases treated. The technological developments, which have gone hand in hand with improvements in our knowledge and understanding, have now brought us to such a pitch that visual function can be preserved or restored in cases that would have been deemed hopeless of treatment not many

years ago. This situation has been achieved thanks to the active interest and co-operation of ophthalmologic communities in many European centres and to enduring governmental and industrial support. Looking to the future, I hope that the enthusiasm of ophthalmologists and ophthalmological societies will lead to a further expansion of the networking system which alone can overcome the limitations intrinsic to single centres. I also trust that we can rely on the continued undinted support of governmental and industrial bodies. Needless to say, their financial backing is indispensable for further progress in this common field of interest to which Prof. Fritz Koerner has dedicated so many of his active working years.

Exhibitors and sponsorship

Many thanks to the following companies for sponsoring the symposium:

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